

PTSD Onset Susceptibility as a Function of Perceived Self-Efficacy and Resilience

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Abstract

The interplay between Post Traumatic Stress Disorder (PTSD) and self-efficacy lies in the efficacy-activated processes that comprise an individual's cognitive and belief systems. Previous research shows that low self-efficacy contributes to development and maintenance of mental disorders like PTSD, while high self-efficacy influences ability to visualize, implement, and maintain success scenarios (resilience) related to effective mental coping. Negative cognition makes it difficult to pursue a coping success scenario in the presence of overriding self-doubt and often arises because a traumatic event has made it difficult to retrieve positive self-identities or has reactivated negative self-identities. Consistent with this model, the hypothesis put forward here, is that a negative association exists between self-efficacy level and PTSD susceptibility. A pre- post-test resilience questionnaire, containing vignettes designed to either raise or lower self-efficacy, revealed a significant interaction between low and high self-efficacy, supporting the that high self-efficacy guards against PTSD susceptibility.

Keywords: *Post-Traumatic Stress Disorder, PTSD, Susceptibility, Resilience, Self-Efficacy*

1. Introduction

Posttraumatic stress disorder (PTSD) was introduced in the third edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-III) (1980,) as a “monocausal” mental disorder requiring a recognizable stressor “that would evoke significant symptoms of distress in almost everyone” and that was “generally outside the range of usual human experience” (Brewin et. al., 2009, p. 366). The disorder can occur at any age, including childhood (British Psychological Society, 2005). Historically, some theories have suggested that negative cognitive factors may contribute to the onset of PTSD (e.g. Brewin & Holmes, Cieslak, Benight, & Lehman, 2008; Foa et. al., 1999).

Bandura defined perceived self-efficacy as people's beliefs about their capabilities to produce designated levels of performance that exercise influence over events that affect their lives. Self-Efficacy beliefs determine how people feel, think, motivate themselves and behave. Such beliefs produce diverse effects through four major processes: cognitive, motivational, affective, and selection (Bandura, 1994). An individual's perception of his/her self-efficacy level is a powerful and extremely influential mechanism by which that person's beliefs impact her/his ability, or lack thereof, to accomplish goals. High self-efficacy is represented by setting challenging personal goals and maintaining strong commitment to them, heighten and sustained efforts in the face of failure, and approaching threatening situations with confidence in their ability to exercise control over them (Bandura, 1994).

Low self-efficacy is evidenced by low aspirations and weak commitment to goals, dwelling on personal deficiencies when faced with difficult tasks, and slow recovery of efficacy following failure, which can be coupled with a low threshold for loss of faith when confronted with failure (Bandura, 1994).

Bandura (1977) developed the theory of efficacy expectations as a mechanism of operation, which provides insight into how expectations of personal mastery affect both initiation and persistence of coping behavior. The strength of people's convictions regarding their coping effectiveness is likely to affect whether they will even attempt to cope with given situations (Bandura, 1977). This indicates that if an individual demonstrates strong perception of self-efficacy expectations s/he will actively commit to coping with a threatening and stressful situation. An individual with low perception of self-efficacy expectations, when presented with a threatening and stressful situation that s/he believes exceeds his/her coping skills, will not commit to coping and may lose faith in his/her coping ability.

Theoretical approaches have suggested that negative cognitions of both the self and the world play a role in developing and maintaining PTSD symptoms after trauma (Cieslak, 2008). Self-Efficacy as a cognitive process influences the ability to visualize success scenarios; when the individual demonstrates negative cognition (doubting his/her efficacy) s/he begins to visualize failure scenarios and it becomes difficult to pursue a success scenario when self-doubt overrides cognition. Considering the emotional aspects of environmental trauma, it is important to relate the affective processes of resilient self-efficacy to staving off PTSD onset. Affective processes largely involve coping capability and the level of stress/depression experienced as the result of a personal threatening situation (Bandura, 1994). People who believe they can exercise control over threats do not conjure up disturbing thought patterns. Those who believe they cannot manage threats experience high anxiety arousal, which causes inefficacious thinking that impairs the individual's level of functioning (Bandura, 1994). Negative thoughts/feelings, trauma-related arousal and reactivity, and distress/functional impairment are all criteria necessary for a diagnosis of PTSD. It is important to note that these are not the heavily debated ambiguous and controversial criteria, but the core symptoms that Brewin et al. (2009) suggest are the focus of PTSD diagnosis criteria.

There is an underlying connection between PTSD onset and low self-efficacy, through the overlap between negative cognitions and negative affect manifesting through the individual's own beliefs. Low perceived self-efficacy should have an established relationship with higher probability of PTSD onset. This relationship may be fostered by pre-existing relationships such as coping deficiencies and impaired level of functioning, and perceived lack of control over a threat and disturbing thought patterns (Bandura, 1994, USDVA, 2016). Brewin & Holmes (2003) theorized that negative cognitions to trauma often arise because the event has made it difficult to retrieve positive self-identities or has reactivated negative self-identities created by previous adversity. Modifying such negative thought processes may therefore involve exploring the existence of alternative identities experienced by the person with PTSD and tracing the links between these identities and the experience of trauma (Brewin & Holmes, 2003). It is possible that these "negative self-identities" arise from the individual's own negative perceived self-efficacy. This can be seen in case studies such as Prakash et. al's. (2016), which relates a case of a 16-year-old male's tank convoy that was attacked by rebels with rockets. The young soldier was reported to have felt "helpless and sad" and later displayed "tense mood" and "anxious affect" (Prakash et. al., 2016). These are all traits of low self-efficacy and would describe a "negative self-identity" (p. 190) that the individual may have of himself.

Based on the theoretical approaches and literature on the topics of PTSD and perceived self-efficacy, it was hypothesized that low-levels of perceived self-efficacy should increase an individual's susceptibility to PTSD onset, while high-levels should decrease individuals' susceptibility to PTSD onset and development. Here we explore this prediction by using a pre-test/post-test methodology employing the Posttraumatic Cognitions Inventory, (PTCI) Foa et. al. (1999), to manipulate participants' level of perceived self-efficacy.

2. Methodology

2.1 Participants

Eight volunteers over the age of eighteen years (range = 19 to 30 years) participated in this study. After signing a subject volunteer consent form, participants completed the Foa et al. (1999) Post Traumatic Cognitions Inventory (PTCI) paper and pencil pre-test to measure their initial susceptibility to PTSD. Participants were assigned to one of two groups of four individuals each and administered the test on an individual basis.

One group read a vignette in which they experienced an event (an automobile accident) from which they needed help to get out of the vehicle and were too emotional to speak with emergency personnel i.e., the vignette produced a negative outcome, that was purposed to lower self-efficacy. The second group was able to walk away physically from the accident and to communicate with helpers – this vignette outcome sought to promote self-efficacy. Immediately after reading the vignettes, the participants completed the PTCI for a second time, as a PTSD post-test. The post-test measured whether PTSD resilience increased, decreased, or did not change by vignette type.

2.2 Materials

Participants completed the Foa et al. (1999) Posttraumatic Cognitions Inventory (PTCI) test in a pre-post-test paradigm, on an individual basis.

3. Results

As a 2X2 factorial design was employed in this experiment, a two-way ANOVA was performed. Figure 1 shows that although, there is no main effect between the pre- and post-tests, a significant main effect between the high and low self-efficacy groups was observed, $F(1,12) = 8.23$, $p < 0.05$, $\eta^2 = 0.42$. Moreover, there was a significant interaction, $F(1,12) = 5.9$, $p < 0.05$, $\eta^2 = 0.23$ in that the low self-efficacy group had decreased resilience, but the high self-efficacy group showed an increase in resilience. The pre-test scores between the groups were not significantly different, indicating that the groups were equivalent in their initial resilience levels. A post hoc t-test analysis was conducted and showed that there was a non-significant trend to decrease resiliency in the low-self-efficacy group, comparing pre-test to post-test scores. However, the high efficacy group showed a significant increase in resiliency, $t(6) = 2.7$, $p < 0.05$, $d = 4.3$, $r^2 = 0.42$ when pre-test scores were compared to post-test scores. The divergent pattern between the low and high self-efficacy groups led to a significant difference between the post-test scores of the low self-efficacy group as compared to the high self-efficacy group, $t(6) = 2.7$, $p < 0.05$, $d = 4.3$, $r^2 = 0.42$.

4. Conclusion

PTSD was designated a diagnosable mental disorder initially included under anxiety disorders in the DSM-III (1980). Since that time, research in the field has increased significantly. DSM-V, the current version, includes a number of classification categories that remain subject to controversy and debate between some researchers in the field. As a result, agreement on a PTSD clear diagnosis criteria has faced numerous obstacles. Due to the persistent disagreements among researchers, it is important to conduct future research aimed at arriving at a more precise, if not at consensus on, a definition that will lead to better diagnostics, treatment methods, and hopefully, outcomes.

The incidence of PTSD continues to increase consistently. There are a number of potential contributors to the increased prevalence of current PTSD diagnosis, among these are, the frequency of combat-related conflict globally. "In light of current events, (e.g. extended combat, terrorism, exposure to certain environmental toxins), a sharp rise in patients with PTSD diagnosis is expected in the next decade" (Iribarren et al., 2005, p. 503). "Of interest due to the perilous state of the world (i.e. wars and terrorism) is the issue of the type of PTSD-inducing trauma. Combat causes high rates of PTSD and makes it more refractory to treatment than other PTSD-inducing traumas" (Iribarren et al., 2005, p. 507). Another contributor to increased diagnosis of PTSD, may be the youth of combat soldiers (see Prakash et. al., 2015). A further contributor is the development of improved diagnostic tools and materials.

Despite the controversy that continues to surround the DSM-V classification, some of these updates help to establish a clearer identification process for the disorder. For example, breaking out PTSD from its original classification category within anxiety disorders, into its own category "Trauma and Stressor-related Disorders" may facilitate classification. The new focus on trauma and its related stressors frames a broader picture of PTSD and facilitates diagnosis while reducing misdiagnosis. Separation of classification events facilitates differentiation between military service related PTSD and factors common to individuals from groups outside of the military/combat category. These groups include women, children, and victims of domestic abuse and Traumatic Brain Injury (TBI), and survivors of sexual abuse to name a few. PTSD's comorbidity with other mental disorders has also contributed to its diagnostic prevalence. PTSD, specifically combat-related PTSD, "is often associated with other psychiatric disorders, including depression, anxiety, mood disorders and substance abuse disorders...between 30 and 40% of combat-related PTSD subjects may go on to develop psychotic symptomatology" (Iribarren et. al., 2005, p. 507).

Research is beginning to indicate that comorbidity is also present in other groups. Children are especially at risk for developing comorbid disorders or more severe forms of PTSD, “Evidence is accumulating that trauma, especially early in life, repeated, and inflicted by relatives or caretakers, produces dissociative disorders. (DID [Dissociative Identity Disorder]) can be thought of as a chronic, severe form of post-traumatic stress disorder” (Spiegel, 2008, p. 1). These commonly comorbid conditions ranging from depression and substance abuse to dissociative disorders have greatly increased the attention on PTSD in groups outside of the military and increased the prevalence of the disorder classifications.

The current study shows that changes in self-efficacy lead to different outcomes in PTSD resilience. Specifically, participants who read a vignette designed to lower their sense of efficacy marginally decreased their resiliency scores while those who read a vignette designed to increase the sense of efficacy significantly increased their resiliency scores. Considering that the two groups were nearly identical in pre-test resiliency it seems remarkable that the two groups diverged to such an extent in their resiliency scores.

In spite of the increased prevalence of PTSD diagnosis in recent years, there has been little research examining what factors may contribute to the onset of the disorder. Experiencing a traumatic event, may itself be the major contributing factor influencing the onset of a trauma disorder. Though this may be true, if trauma were the sole determinate of PTSD onset, why don't all individuals who experience trauma develop PTSD? Bandura's social cognitive theory and the concept of self-efficacy was a good place to start addressing this question. Further, Brewin & Holmes (2003) theorized that the creation of a negative self-identity in some individuals contributes to development of negative cognitive responses to trauma; and they propose that it is this difficulty in retrieving positive self-identity that hinders the individual's ability to rise above adversity. Bandura (1994) established the relationship between coping deficiencies and impaired levels of functioning or the relation between perceived lack of control over a threat and disturbing thought patterns. The earlier studies established the correlation between self-efficacy and perceived cognitive control or lack thereof in general. Such findings set the foundation upon which the current study sought to explore the relationship between PTSD, a set of specific trauma-related cognitive factors, and high self-efficacy as a resilience-based coping mechanism. As hypothesized, in the current study, participants' PTSD susceptibility levels align with their resiliency scores. Lower resiliency levels show a significant relationship with higher susceptibility for PTSD onset. The opposite was observed for higher resiliency and PTSD onset susceptibility. These findings support those of early theories (Bandura and Brewin & Holmes), regarding self-efficacy and trauma in general, but go further to establish the connection between self-efficacy and PTSD, a current specific mental disorder. PTSD, as a diagnosable mental disorder, is at an all-time high. However, PTSD research remains relatively low compared to the body of research dedicated to other psychiatric disorders.

There are several limitations in the current study, the major being, the low number of participants in each of the two experimental groups. However, the detection of statistically significant susceptibility/resiliency differences revealed by the results, indicate that perceived control over a traumatic event or situation, which facilitates coping, demonstrates the robustness of positive self-efficacy perceptions in influencing outcomes that foster powerful resiliency effects. An increased number of participants in future studies should provide stronger evidence for the current observed outcome. Given the low participant numbers, the present study should be interpreted as providing strong preliminary evidence for the existence of a significant positive relationship between high self-efficacy and resilient coping ability to environmental trauma.

Another possible limitation of the current study is that the high and low self-efficacy vignettes were purposed to either raise or lower self-efficacy to measure effect of vignette type on PTSD onset susceptibility broadly. Future research should conduct in depth exploration into the individual and cumulative impact of the specific factors contained in the questionnaires. For example, what is the impact of the language used, whether the protagonist is the self or another person(s), and traumatic event category.

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Figures

Figure 1: PTSD Resiliency as a Function of Self-Efficacy

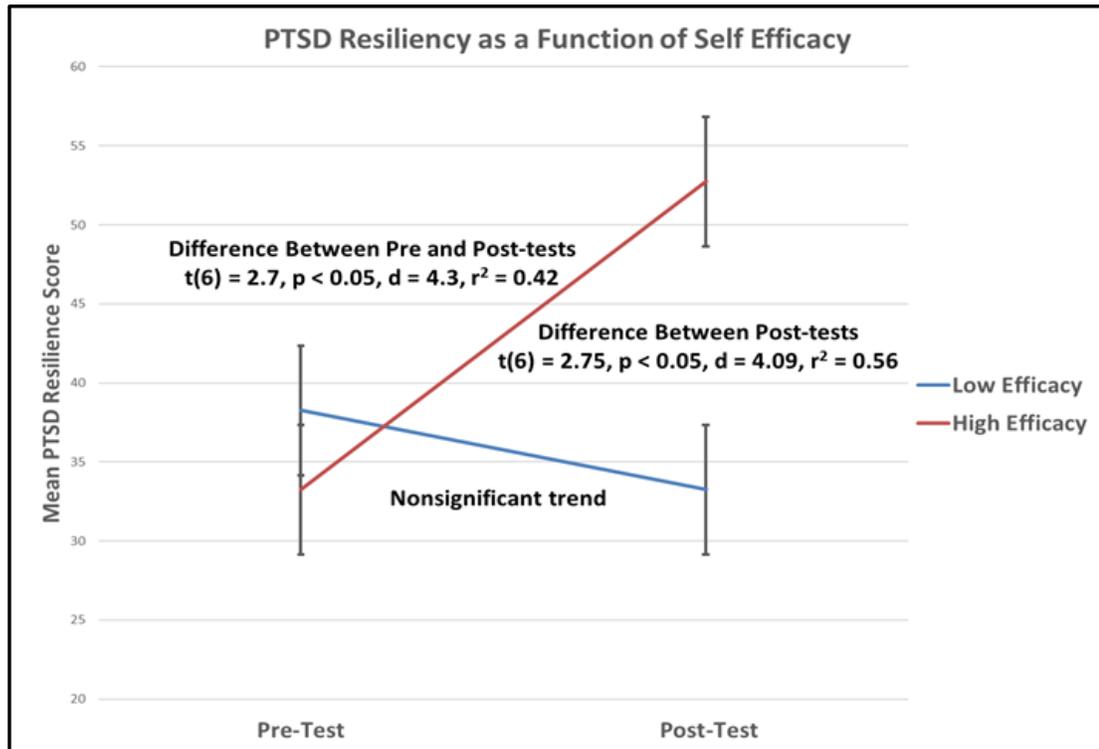


Figure Legend

Figure 1: PTSD Resiliency as a Function of Self-Efficacy